WHAT IS CLAIMED IS:

1. A surgical tool for making an incision in scleral tissue of an eye comprising:

a surgical blade capable of being moved by said surgical tool through said scleral tissue of said eye to make an incision having the form of a scleral pocket that is capable of receiving a scleral prosthesis.

2. A surgical tool as claimed in Claim 1 wherein said surgical blade comprises a curved cutting blade that is capable of making an incision in said scleral tissue that is approximately one and one half millimeters wide and approximately four millimeters long, said incision being located approximately four hundred microns under a surface of said scleral tissue.

3. A surgical tool as claimed in Claim 1 further comprising a base housing comprising:

a first drive shaft for providing bidirectional rotational motion to said surgical blade;

a drive motor coupled to said first drive shaft, said drive motor capable of providing bidirectional rotational motion to said first drive shaft; and

a control cable receptacle coupled to said drive motor, said control cable receptacle capable of receiving electrical power

from an external power source and providing said electrical power to said drive motor to operate said drive motor.

4. A surgical tool as claimed in Claim 1 further comprising a surgical tool controller, wherein said surgical tool is capable of receiving control signals from said surgical tool controller and capable of using said control signals to control said surgical blade of said surgical tool; and

wherein said surgical tool controller is capable of sending said control signals to said surgical tool in response to receiving control signals from a surgeon who is using said surgical tool to make an incision in said scleral tissue of said eye.

5. A surgical tool controller as claimed in Claim 4 further comprising a foot switch coupled to said surgical tool controller through a control signal line, said foot switch capable of sending control signals from said surgeon to said surgical tool controller to control said surgical blade of said surgical tool.

6. A surgical tool as claimed in Claim 3 further comprising:

a drive shaft housing coupled to said base housing, said drive shaft housing comprising a second drive shaft coupled to said first drive shaft;

a blade mount housing comprising a third drive shaft coupled to said second drive shaft, said blade mount housing being mounted on said drive shaft housing at an angle with respect to a central axis of said drive shaft housing; and

wherein said surgical blade is coupled to said third drive shaft of said blade mount housing.

7. A surgical tool as claimed in Claim 6 further comprising an external reference line marked on a surface of said blade mount housing, said external reference line indicating a desired location for placing said surgical tool on an eye to make an incision in scleral tissue of said eye to form a scleral pocket that is capable of receiving a scleral prosthesis.

8. A surgical tool as claimed in Claim 7 wherein said external reference line is located on said surface of said blade mount housing so that a desired location on said eye for aligning said external reference line with said eye is a limbus of said eye.

9. A surgical tool as claimed in Claim 6 wherein said surgical blade comprises:

a rotatable support arm having a first end coupled to said third drive shaft of said blade mount housing; and

a curved cutting blade having a first end coupled to a second end of said rotatable support arm, said curved cutting blade having a second end that is capable of making an incision in said scleral tissue that is approximately one and one half millimeters wide and approximately four millimeters long, said incision being located approximately four hundred microns under a surface of said scleral tissue.

10. A surgical tool as claimed in Claim 9 further comprising:

a blade guide mounted on said blade mount housing, said blade guide having portions that form a circularly shaped surface that is concentric with said curved cutting blade but having a radius less than a radius of said curved cutting blade, so that said curved cutting blade passes over said circularly shaped surface of said blade guide when said support arm rotates said curved cutting blade in a forward direction.

11. A surgical tool as claimed in Claim 10 wherein a distance between said circularly shaped surface of said blade guide and said curved cutting blade when said support arm rotates said curved cutting blade in a forward direction over said circularly shaped surface of said blade guide is approximately four hundred microns.

12. A surgical tool as claimed in Claim 10 wherein said blade guide comprises portions that form a forward motion safety stop for stopping a forward motion of said curved cutting blade.

13. A surgical tool as claimed in Claim 10 wherein said blade guide comprises:

a first end portion that forms a first blade slot on a first end of said blade guide; and

a second end portion that forms a second blade slot on a second end of said blade guide;

wherein said first blade slot and said second blade slot are capable of slidably receiving said curved circular blade when said support arm rotates said curved circular blade over said circularly shaped surface of said blade guide.

14. A surgical tool as claimed in Claim 10 wherein said blade guide comprises:

a pressure sensor capable of determining a measurement of pressure between said circularly curved surface of said blade guide and a surface of said scleral tissue when said circularly curved surface of said blade guide is placed into contact with said surface of said scleral tissue; and

a signal line coupling said pressure sensor to said surgical tool controller to provide said measurement of pressure to said surgical tool controller.

15. A surgical tool as claimed in Claim 14 wherein said surgical tool controller sends a control signal to said surgical tool disabling bidirectional rotational motion of said surgical blade when said measurement of pressure from said pressure sensor of said blade guide does not exceed a selected pressure level.

16. A surgical tool as claimed in Claim 10 further comprising means for holding said scleral tissue against said circularly curved surface of said blade guide when said curved cutting blade makes an incision in said scleral tissue.

17. A surgical tool as claimed in Claim 16 wherein said means for holding said scleral tissue against said circularly curved surface of said blade guide when said curved cutting blade makes an incision in said scleral tissue comprises a scleral tissue fixation tool.

18. A surgical tool as claimed in Claim 17 wherein said scleral tissue fixation tool comprises:

a shaft; and

at least one fixation barb affixed to an end of said shaft, said at least one fixation barb capable of holding said scleral tissue when said fixation barb is rotated into engagement with said scleral tissue.

19. A surgical tool as claimed in Claim 17 wherein said means for holding said scleral tissue against said circularly curved surface of said blade guide when said curved cutting blade makes an incision in said scleral tissue comprises a vacuum.

20. A surgical tool as claimed in Claim 9 further comprising:

a blade guide mounted on said blade mount housing, said blade guide having portions that form a circularly shaped surface that is concentric with said curved cutting blade but having a radius less than a radius of said curved cutting blade, so that said curved cutting blade passes over said circularly shaped surface of said blade guide when said support arm rotates said curved cutting blade in a forward direction;

said blade guide comprising portions that form a vacuum chamber within the interior of said blade guide, and comprising portions that form a plurality of access ports between said vacuum chamber and said circularly shaped surface, and comprising portions that form a vacuum coupling that is cable of being coupled to a vacuum supply line.

21. A surgical tool as claimed in Claim 20 wherein said blade guide holds said scleral tissue against said circularly curved surface of said blade guide when said curved cutting blade makes an incision in said scleral tissue comprises a scleral tissue fixation tool by applying a vacuum to said scleral tissue through said plurality of access ports.

22. A method for making an incision in scleral tissue of an eye to form a scleral pocket to receive a scleral prosthesis, said method comprising the steps of:

placing on said scleral tissue of said eye a surgical blade of a surgical tool, said surgical blade capable of being rotated by said surgical tool through said scleral tissue of said eye to make an incision having a form of a scleral pocket;

holding said scleral tissue to restrain movement of said scleral tissue;

rotating said surgical blade in a forward direction to cause said surgical blade to pass through said scleral tissue to form said incision having said form of a scleral pocket; and

rotating said surgical blade in a reverse direction to remove said surgical blade from said incision.

23. A method as claimed in Claim 22 wherein said incision having said form of said scleral pocket comprises an incision that is approximately one and one half millimeters wide and approximately four millimeters long, said incision being located approximately four hundred microns under a surface of said scleral tissue.

24. A method as claimed in Claim 22 wherein said step of placing on said scleral tissue of said eye a surgical blade of a surgical tool further comprises the step of:

aligning an external reference line located on a surface of a blade mount housing of said surgical tool with a limbus of said eye.

25. A method as claimed in Claim 22 wherein said step of holding said scleral tissue to restrain movement of said scleral tissue comprises the step of:

holding said scleral tissue with a scleral tissue fixation tool.

26. A method as claimed in Claim 22 wherein said step of holding said scleral tissue to restrain movement of said scleral tissue comprises the step of:

holding said scleral tissue with a vacuum.

27. A method as claimed in Claim 22 wherein said step of rotating said surgical blade in a forward direction to cause said surgical blade to pass through said scleral tissue to form said incision having said form of a scleral pocket further comprises the steps of:

controlling said rotation of said surgical blade with a surgical tool controller; and

providing to said surgical tool controller control signals from a surgeon who is using said surgical tool to make an incision in said scleral tissue of said eye.

28. A method as claimed in Claim 22 further comprising the step of:

using a blade guide of said surgical tool to guide a rotation of said surgical blade through said scleral tissue to cause said surgical blade to pass through said scleral tissue at a depth of approximately four hundred microns.

29. A method as claimed in Claim 28 further comprising the steps of:

providing a pressure sensor within said blade guide;

coupling an output of said pressure sensor to said surgical tool controller;

determining with said pressure sensor a measurement of pressure between said blade guide and said scleral tissue when said blade guide is placed in contact with said scleral tissue; and

providing said measurement of pressure to said surgical tool controller.

30. A method as claimed in Claim 29 further comprising the step of:

disabling bidirectional motion of said surgical blade when said measurement of pressure from said pressure sensor does not exceed a selected pressure level.